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A Theoretical Framework: The Central Piece of a Research Plan

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Establishing a line of research always begins with a plan of action that I call a research plan. For untenured faculty members, developing and implementing a research plan may seem more like racing through an orienteering course than creating a systematic plan to contribute new information to a knowledge base. Young scholars often feel as though they must dash madly from one orienteering flag (i.e., publication) to the next in their attempt to create products as quickly and efficiently as possible. Although products are important, I would like to encourage young scholars to slow their pace for just a moment and think about the development of their respective research plans as more like solving a puzzle than running a race. In the research puzzle, the central piece is the development of a theoretical framework to guide your research decisions. The theoretical framework is a structure that identifies and describes the major elements, variables, or constructs that organize your scholarship. It is used to hypothesize, understand, or give meaning to the relationships among the elements that influence, affect, or predict the events or outcomes you specify. The theoretical framework grows out of the research focus, guides the design of individual studies, and structures your research presentations and publications. It is important to begin to assemble the theoretical framework and the other pieces you will need to solve the research puzzle rather than racing around in a scattered attempt to produce a few disjointed products.

As you begin to formulate your research, I suggest you consider five pieces essential to solving the research plan puzzle. They are:

1. Shaping a focus or vision of your research goals.
2. Creating or identifying a viable theoretical framework that provides an internal structure to support the research process and permits other pieces to fit.
3. Using the framework to delineate and build the theoretical progressions and research steps that reach toward your vision.
4. Disciplining yourself to use the theoretical framework, to follow step-by-step progressions, and to complete the job.
5. Honing your ability to communicate your theoretical framework and research plan to others who will support, assist, and evaluate your efforts.

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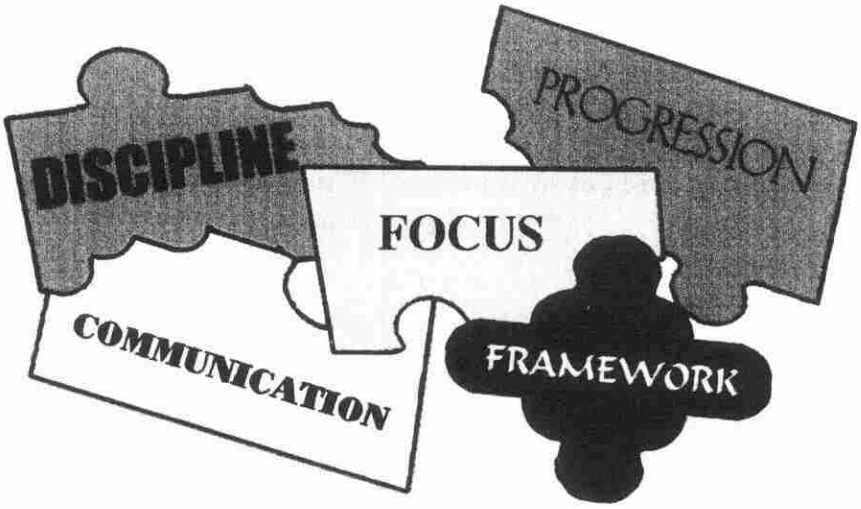

Figure 1 — Getting started.

Focusing on a Theoretical Framework

The research plan begins with an idea or construct that is of great interest to you. You may begin to design your research plan as a doctoral student using your major professor's theoretical framework or, early in your career, as an assistant professor using the research and analysis tools learned during your doctoral program. If you are currently a master's degree student or are thinking about entering a doctoral program, it is critically important to select a doctoral program where you will have the opportunity to be trained and mentored by a person who is actively conducting and publishing research. In other words, it is to your advantage to find a person who is already using a theoretical framework and can help you learn to focus and structure your work following a research plan.

A research plan often develops quite slowly and builds over many years, perhaps over your entire career. Of course it will evolve and change, but you need to know when it is reasonable and appropriate to revise your plan and how those revisions bring you closer to your goal. That's why a plan is so important. The goal of a research plan is to create or identify a theoretical framework and use it to develop a series of research studies that build to the development of a model or some other coherent form of understanding. In physical education pedagogy we have a number of researchers who have structured their work using research plans. For example, Tom Martinek (1988), Amelia Lee (1997), Judy Rink (1994), Inez Rovegno (1993), and Steve Silverman (1993) are all prolific researchers who have examined particular topics in detail and have followed carefully constructed research plans. Their programs are on-going and long term with each step building toward the development of theoretical models and frameworks.

I have found Martinek's research program particularly helpful in learning to create and follow a research plan. Martinek and his colleagues studied how student

learning and behavior was enhanced or limited by teacher expectations. He selected the theoretical framework of expectancy theory based on the Pygmalion Effect described by Rosenthal (1974). Over a period of 10–15 years, he methodically examined variables that appeared to influence teacher and student expectations. In 1981 he proposed a model for expectations in physical education (Martinek, 1981) and systematically published research that tested the validity of that model. He studied dyadic interactions and self-concept (Martinek, 1980; Martinek & Johnson, 1979), motor ability and expressions of effort (Martinek & Karper, 1982), competitive and noncompetitive social climates (Martinek & Karper, 1984), and other instructional contexts (Martinek & Karper, 1986). He used a variety of methodologies ranging from canonical correlations (Martinek & Karper, 1982) to systematic observations and ethnographic interviews (i.e., Martinek, 1988). Recently, he has focused on a strand within this framework examining the psychological and environmental factors influencing student learned helplessness. His line of research has been very influential in our understanding of student-teacher interactions in school settings. His research has been focused on a specific theoretical framework and has used a series of planned progressions to validate the model proposed in 1981 (Martinek, 1981, 1988; Martinek, Crowe, & Rejeski, 1982).

Amelia Lee (Lee, 1997; Lee & Solmon, 1992) has also used a well developed theoretical framework as the basis of her research plan. Lee and her colleagues' research examined how students' thought processes influence achievement in physical education. She used the cognitive mediational model to identify important mediating variables in learning such as student self-perceptions (i.e., perceived competence, motivational thoughts, and perceptions of achievement goals), attention, and student perceptions of teacher behaviors (i.e., teacher expectations and feedback, and instructional behaviors; Lee & Solmon, 1992). Like Martinek, Lee has used a step-by-step progression to examine a number of these variables using carefully crafted studies. For example, she has found that students' competency beliefs vary as a function of age, gender, and the domain studied. In research with elementary children of different ages and grades, Lee found that younger children have higher, but not necessarily more realistic, expectancies for success (Lee, Hall, & Carter, 1983; Lee, Nelson, & Nelson, 1988). Further, some children are so concerned about their inability to perform that they have trouble implementing strategies to help them learn (Lee, Landin, & Carter, 1982). While older children believe that specific sports are more gender appropriate for males than females (and the opposite) (Lee, Belcher, Friedenburg, & Cleveland, 1996, cited in Lee, 1997), kindergarten and first grade children do not consider social comparison information in their belief constructions (Lee, Carter, & Xiang, 1995).

The research plans developed by Martinek and Lee are tightly focused designs using an established theoretical framework. The richness and significance of their work is evident in their numerous articles conducted over a long time period and published in a variety of education and physical education journals. Both of these distinguished researchers continue to provide systematic answers to some of our most interesting and important questions.

Like the research programs developed by Martinek and Lee, your research plan needs to be sustainable through your interest and hard work and through the professional contacts you make in schools, at your university, nationally and internationally, and through grant funding. External funding is becoming increasingly important as university and department budgets become tighter. Plans that are

fundable often are highly valued by colleagues and administrators. Ideally, your research focus should be one that others, such as colleagues, graduate students, reviewers, and journal editors, also will find significant and meaningful. It is easier to begin if you choose an area of interest in which some philosophical or experimental work already has been published, although a few of you may identify an idea that is yours alone. Despite the fact that you may be interested in many aspects of pedagogy, it is important to narrow your research focus as quickly as possible, then to maintain that narrow focus. Select one theoretical framework, rather than trying to blend two or three. The broader your focus, the harder it is to explain within a concise theoretical framework and the more difficult it is to find the time, resources, and energy to support it within your research plan.

Mentoring and the Theoretical Framework

Most of us need some help in creating and focusing a research plan. I received outstanding mentoring as an assistant professor at the University of Wisconsin, Madison. A short time after I arrived, I was encouraged to select two mentors with whom I wanted to work and who also agreed to work with me.

Although neither were pedagogists, they were instrumental in teaching me how to conduct research and how to communicate my work to others. Most importantly, they began on the first day to reinforce the importance of a theoretical framework and to teach me clearly and very directly about my responsibility to create and conduct a research plan. For instance, I was asked repeatedly about my research interests and goals. Mentoring to create and narrow that focus included frequent questioning about the steps I was taking to further my research and whether I had submitted proposals for internal university funding. I was asked what my next five research studies were going to be and what journals I had identified for these publications.

My research plan was shaped, in part, by these expectations. For example, it became clear very quickly that I was to publish my work both in physical education journals and in education journals. I received help in evaluating and selecting journals for my research and was told that, when (not if) my manuscript was rejected, I shouldn't let it bother me. I must use the reviewers' comments to refocus and revise my plan and my manuscript and resubmit my work. In fact, during the initial manuscript writing process, I was expected to identify five possible journals where I could submit each manuscript, because it might be rejected more than once! And, you know, when this happened . . . I knew which journal was next on my list, and off I went to revise and resubmit.

I am sure my mentors shuddered at my first efforts to articulate that research plan, but they were patient and insistent that I do it this way. It was important that I keep working at it until I got it right. Needless to say, I am still working. Developing a focus and a vision for your work is a long-term, on-going process that you refine throughout your career.

The Theoretical Framework: Central Piece of the Research Puzzle

The most critical part of the research plan is the theoretical framework. A theoretical framework provides you with both structure and boundaries within which to work. Theories are usually composed of interrelated ideas that explain (or propose to explain) some phenomenon. The nature and structure of a theory often

reflects a particular paradigm consistent with a philosophy or school of thought. It organizes a complex environment, like a physical education class, and helps you to know where to look, what questions to ask, and which answers are more likely to provide new insights. Theoretical frameworks also help you to understand what is already known about the topic and what needs to be learned or discovered. They can help reveal patterns or relationships that assist us in anticipating events or perceptions, and opening up avenues for change or improvement.

You should expect to devote a substantial amount of time to thoroughly understanding the framework you intend to use. As a doctoral student, you can do this with the help of course work, readings, and discussions with your advisors and fellow graduate students. When you are an assistant professor, it is done during nights and weekends of study as you teach yourself the information you need to structure your research questions and design each study.

The work with my theoretical framework, educational value orientations began when I was a doctoral student in the early 1980s in the Curriculum Seminars led by Professor Ann Jewett at the University of Georgia. Although we did not conduct school research during that time, we spent many intellectually stimulating afternoons discussing assigned readings by scholars in diverse areas such as philosophy, sociology, psychology, theology, and education. We spent many seminars discussing theoretical frameworks and models, understanding the elements of the theory, and how components were interrelated. It became evident that theoretical frameworks were powerful organizers of ideas that structure our thinking in ways rarely approached in work with single, isolated variables.

During my dissertation research, I examined my advisor's theoretical framework, the Purpose Process Curriculum Framework (Jewett & Mullan, 1977), to learn how well it explained teachers' and students' curricular decision making (Ennis, 1986). By studying the framework, I gained an in-depth understanding of the multiple elements and their relationships. The network of understandings that can be created by a powerful theoretical framework can be used to organize and focus research questions and build progressions to answer critical questions (Jewett & Bain, 1987). Although I have not chosen to continue my work within that framework, the lessons learned about structuring knowledge and focusing research have been instrumental in my ability to create and utilize other theoretical frameworks central to my current research.

During the time I was studying the Purpose-Process Curriculum Framework, I also learned firsthand about teachers' and students' educational values and beliefs and began to think about how belief systems could be organized and measured using methods that maintained the integrity of teachers' beliefs and goals for physical education. By the time I graduated with my doctoral degree, I had a fuzzy but evolving theoretical framework about value orientations that suggested how teachers' beliefs influenced what and how they taught. I also understood, but sometimes had trouble describing, why this knowledge was important and significant.

In my first job as an assistant professor at the University of Wisconsin, my mentors questioned, tested, and stretched my understanding as my plan developed and grew. I have spent the last 15 years developing, examining, and revising my theoretical framework. It has expanded beyond that initial framework to encompass the influence of school context on teachers' and students' constructions of educational values and beliefs (Ennis, 1995, 1998). The importance of the theoretical framework in designing, conducting, and communicating my work has become increasingly clear to me. It is absolutely essential to organize my work around

important interrelated theories that contribute to the body of knowledge of our field. Further, it is hard, if not impossible, to create a sustainable, publishable, and fundable line of research without a strong theoretical framework.

Developing a Progression of Research Studies

The theoretical framework permits you to develop the step-by-step progressions of research questions and studies that constitute your research plan. Sometimes you can move deliberately from question to question and study to study, while at other times, you may need to linger on one question, devising several studies to answer that question. Occasionally, you may find that the progressions you envision may not be correct, thus causing you to back up, refocus, or create a new way of addressing the problem. My mentors frequently reminded me to connect each study directly to the theoretical framework and to follow the progression as closely as I could. This provides a cumulative body of information that builds on previous research and sets the stage for your next study.

There also are instances when it becomes critical to stop working through the progressions and reformulate your plan, theoretical framework, or model, based on what you have learned. This is often the case when the answers to research questions are unexpected. In other words there are particular junctures within your research plan in which an answer or series of answers will change your theoretical framework or might lead to a decision to abandon the line of research altogether. This occurred in my research plan when I realized that one of the orientations that was critical to my theoretical framework was not valued by many urban teachers. I had initially tested value orientations using an inventory that I developed from the literature we had read at the University of Georgia in those curriculum seminars. My initial investigations of these concepts had been conducted in rural schools in Georgia and in small cities and towns in Wisconsin. When I moved to the University of Maryland, located in suburban Washington, DC, it became clear to me that those scholars had not been thinking about today's urban public schools when they conceptualized one of the educational value perspectives.

After conducting several studies with urban physical educators, I realized that a modification was needed in the theoretical framework for the Value Orientation Inventory (VOI; Ennis & Hooper, 1988). Although I had worked for about 7 years to validate the five value orientations, one in particular—social reconstruction—was proving to be particularly shaky for urban teachers. They simply did not acknowledge or support the social reconstruction value orientation as I had come to understand it from the literature. Specific components in the social reconstruction value orientation, such as the subconcept of the "student as an agent for change," were particularly troublesome. My urban teachers advocated, instead, that students be more responsible, to acknowledge and obey—not question—authority as more important goals for physical education than agency. Students needed to learn to cooperate, work with their team, and respect teachers and other students (Ennis, 1994).

This led Ang Chen and me to revise the VOI now referred to as the VOI-2 (Ennis & Chen, 1993). We examined both "social reconstruction" and "social responsibility," finding much stronger support for social responsibility from both school based physical educators and university physical education faculty than we found for social reconstruction. Although I still believe very strongly in social re-

construction as a viable value orientation, it is not included as part of the VOI-2 because it does not adequately reflect the beliefs of teachers and teacher educators in our samples. In other words, it has yet to be supported extensively in our survey and ethnographic research (Ennis, 1994; Ennis & Chen, 1993).

We are particularly fortunate in pedagogy to be knowledgeable in the use of many different methodologies. One part of a step-by-step research plan progression might be to examine the same question from several different perspectives using a variety of different methodologies. We also extend and refine our questions and focus on very specific and essential aspects that are critical to our understanding of the phenomenon. Thus, developing progressions within a working research plan could be a lifetime quest in which you look at questions from many different viewpoints and systematically examine the components of the construct you are proposing. It is also important to shift and (or) revise your focus as new knowledge appears or the circumstances change. For example, the recent emergence of dynamical systems theories could stimulate major changes in the way we think about teaching and learning (e.g., Doll, 1993; Ennis, 1992). It is important to consider and explore these concepts and perhaps make major changes in your research plan or begin a new plan once you have evidence to support a change.

Following the Theoretical Framework to Complete Your Work

There are two types of discipline that are equally important in completing your research plan. The first is the familiar form of self-discipline in which we just have to be persistent and work hard to complete the project and meet deadlines. The second is the intellectual discipline to stay tightly focused on the theoretical framework and research plan. When we examine the lives of individuals who accomplish important things, often we find that an individual had a vision and then worked methodically to realize or create that vision. It is obvious that these people believe in the value of what they are doing. They have the personal and intellectual discipline to carry out their plan over a long time period.

Significant research in pedagogy rarely occurs as a quick, effortless study; instead, it is created through persistence, determination, and hard work. In schools, it is easy to see when students or teachers do not have a clear plan or have not yet committed to a vision. They often float from one task to another without a sense of timeliness and purpose. Free play and quick, short-term rewards often dominate the curriculum. In academia, it is also easier to work on discrete or specific tasks, such as planning a class or grading papers, that have clear structure and a definite completion, rather than taking on long-term, delayed gratification projects like creating a research plan. It takes self-discipline to sit down to create the proposal, abstract, or manuscript that is consistent with your framework and research plan and moves you one step closer to your goal.

We are all familiar with the truly bright or extremely creative individual who just was not able to write the manuscript or meet that deadline. They have wonderful insights and ideas, but never seem to complete the project. Compare that person with the one with average ability who is highly motivated and determined. They may, figuratively speaking, "nail" their feet to the office floor until they complete the job correctly. "Good" writing is almost always hard work. Some people give up, while others just keep struggling until they get the job done. And, for those of you who are very bright, creative, and disciplined . . . as Dr. Seuss (1990)

would say, "Oh, the places you'll go!" And I might add: Oh, the contributions you can make to our knowledge of teaching and learning in physical education.

The second type of discipline, intellectual discipline, refers to the discipline needed to stick with your focus and theoretical framework and move methodically from step to step. This type of discipline is also critical to completing your research plan. In academia it is often easier to connect with the colleague who already has a grant or a good idea rather than conceptualizing that idea and developing the plan yourself. While this collaboration might be important to help you get started, make no mistake: Those who review your research plan throughout your career will expect to see that you have created a focused program of research and have found others to work with you. My mentors at Wisconsin encouraged me to prove that I had independent ideas and could create and follow my research plan before I could work collaboratively with others on joint projects. While this research philosophy is not typical in physical education pedagogy, it has worked well for me.

As you consider attractive offers from others to collaborate, you may want to run an internal check on your theoretical framework before you agree. For example, you might ask yourself if their research questions or studies add important pieces to your research puzzle and contribute to the body of knowledge you are examining. Is that joint project consistent with your theoretical framework? Does it present the perspective that you say (and strongly believe) is most important? Does it further our understanding of student learning based on your focus of study? You should ask yourself these questions again and again, and explain your theoretical framework in each manuscript and to anyone who will listen. As you find collaborators, remember to be disciplined enough to follow your research plan and work within your theoretical framework.

Communicating Your Research Within the Theoretical Framework

The last piece of the research plan puzzle focuses on the ability to communicate ideas to others. The best research plan will not take us anywhere unless we can explain the nature of the plan and theoretical framework and how each study builds and extends the body of knowledge about teaching and learning. This can be done through presentations and publications intended for a variety of audiences. I encourage my students first to present their teaching ideas and research to small, friendly audiences at state and local conferences. Students get a chance to think through the presentation organization, limit the length of the presentation, and stand in front of strangers to explain their work. It also provides an opportunity to practice managing the technology or page turning logistics while everyone is watching and waiting. These are important skills involved in presenting your research in front of a national audience.

Publishing a manuscript usually requires numerous efforts at organization before you are able to convey your message in a limited number of pages. Sifting and winnowing that ethnographic dissertation from 150–200 pages to 25 is a formidable challenge! The theoretical framework is helpful here to assist you in focusing on the most important information and explain to your readers how this research is consistent (or inconsistent) with our current understandings about the body of knowledge.

The theoretical framework also is a particularly important part of the introductory section of the manuscript. It identifies and defines the components of your theory

and their accepted or proposed relationships. The framework also shapes the boundaries of your research and informs the reader of the critical questions and issues. After reading an introductory overview of your theoretical framework, reviewers and readers are ready to consider your findings. They have a deeper understanding of the topic and can value the contributions made by your work. The theoretical framework is particularly helpful when analyzing ethnographic data to identify the most relevant themes and supporting evidence. Finally, you can help your readers understand the coherence and contributions of your findings by referring to key elements of the theoretical framework in your discussion. Because readers are now familiar with the theoretical framework, they can compare your findings to the literature and evaluate the quality of your research. It is also much easier to convince your readers that your work has contributed to the body of knowledge. Likewise, you can explain why your findings contradict or extend our current understanding, laying the groundwork for more startling results in your future manuscripts!

Publishing a manuscript is a time consuming process. The initial writing and revising before you submit your work usually is followed by several additional rounds in which you consider editors' and reviewers' comments. I have always depended on reviewers to help me conceptualize and present my research. I take their suggestions seriously and try to incorporate them in the manuscript, even when this means significant reorganization and additional writing. Although it is important to publish your work in a timely manner, this can be difficult at times, especially if your work is innovative and different. Professor Frank Baker, a statistician at the University of Wisconsin, used to say, "You can always tell the pioneers by the arrows sticking out of their backs." Look closely at your advisors and mentors, and you will see that they too had to work hard to explain and present their research over the years. And they are working hard now to prepare you for this process.

Since our first written and oral reports and graduate student exams, we have been learning to communicate our scholarly ideas and research findings. These skills are essential to present a research plan with a clear focus and a concise theoretical framework, emphasizing the step-by-step progressions. I have presented my research plan to my mentors over breakfast, lunch, and dinner, to my department colleagues for merit reviews, to promotion and tenure committees, and to external reviewers of my vita, grant proposals, abstracts, book prospectuses, and manuscripts. This, of course, has been hard for me to learn how to do; I have made lots of mistakes. The first 100 times or so I was asked to explain my research, I stumbled and bumbled. Mentors have prodded and pushed; journal editors and reviewers have pulled and shaped; and undergraduate and graduate students have questioned and confronted. Each time this occurs, I get a little better at presenting my work and a bit more committed to what I do. And without this piece of the puzzle—without communication—it is impossible for my research plan to contribute to a larger body of knowledge: my goal from the beginning.

The Completed Puzzle

When a research plan is conceptualized as a puzzle, it becomes a process of identifying and fitting each piece into place. The satisfaction and the intellectual stimulation come more from shaping and fitting each piece than from admiring the picture created at the end. I have always been employed at Research I universities where research productivity was supported by reduced teaching loads and rewarded

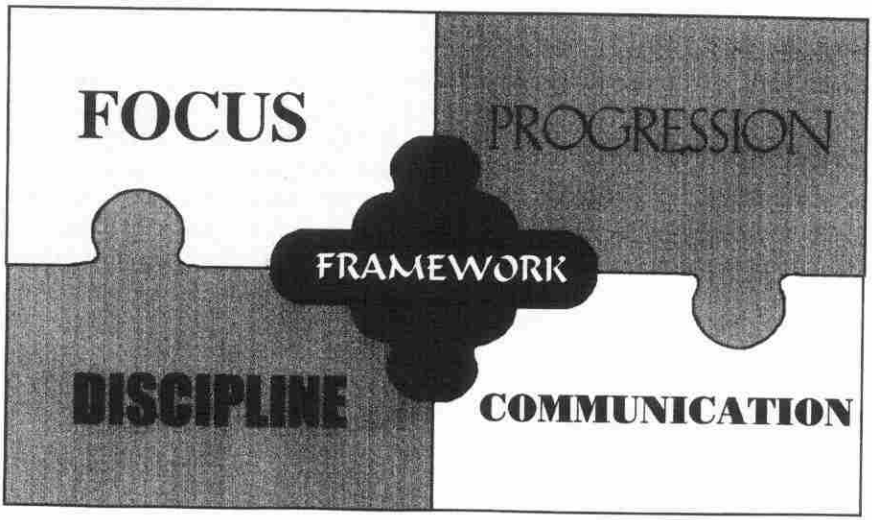

Figure 2 — Putting it all together.

with promotion and salary increases. Those of you who also work at research and doctoral level universities know both the pressure and rewards of research productivity. If you work at a regional university or college, the expectations for research productivity may be made into a second- or third-level priority behind your teaching and service expectations. However, many institutions that have focused on teaching and service in the past increasingly are encouraging their faculty to develop and conduct a line of research. Whether you produce three or more publications a year or one publication every 3 years, it is important to follow a focused plan using a theoretical framework. The plan helps you to refocus your attention and energy on your research when time allows. It assists you in "keeping your place" and moving in a step-by-step progression toward your research goals. While the type of institution where you are employed may affect your research productivity (quantity), it should not constrain the quality of your work.

Being a professor who is actively involved in a research plan is interesting, stimulating, and just plain hard work. Working to teach others how to use a theoretical framework to conduct research and develop their own research plans is challenging and very satisfying. I think success depends on developing a focus or vision for your work, then creating or acquiring a theoretical framework to guide and shape your research plan. That theoretical framework is central to the puzzle. It helps you formulate the step-by-step progressions of research questions and studies and assists you in communicating your findings to others. The theoretical framework also helps you discipline yourself to stay focused within your plan and to complete the daily work that moves you one step closer to proposing and testing a model or theory. I suspect that most of us never complete our plans; we just keep adding new pieces that extend our understanding and hopefully provide clues for others to use as they work toward their research solutions. I have found the process to be continually stimulating, professionally satisfying, and very enjoyable. I hope your efforts to develop and follow your plan will be equally rewarding.

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